

34 (New). The method of claim 1 including forming the protective layer of an insulator.

35 (New). The method of claim 34 including forming the protective layer of a material in the form of silicon nitride.

36 (New). The method of claim 35 including forming the silicon nitride in the form of Si_3N_4 .

37 (New). A method comprising:
forming a protective layer over a lower electrode of a phase change memory.

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38 (New). The method of claim 37 including forming the lower electrode and covering the lower electrode with a protective layer in the same chamber.

39 (New). The method of claim 38 including depositing the lower electrode and the protective layer in the same deposition chamber.

40 (New). The method of claim 39 including depositing the electrode and protective layer in the same deposition chamber without venting back to atmosphere.

41 (New). The method of claim 37 including forming the protective layer of an insulator.

42 (New). The method of claim 41 including forming the protective layer of a material in the form of silicon nitride.

43 (New). The method of claim 42 including forming the silicon nitride in the form of Si_3N_4 .

44 (New). A method comprising:
forming an insulating protective layer over a conductive lower electrode of a phase change memory.

45 (New). The method of claim 44 including forming the lower electrode and covering the lower electrode with a protective layer in the same chamber.

46 (New). The method of claim 45 including depositing the lower electrode and the protective layer in the same deposition chamber.

47 (New). The method of claim 46 including depositing the electrode and protective layer in the same deposition chamber without venting back to atmosphere.

48 (New). The method of claim 44 including forming the protective layer of an insulator.

49 (New). The method of claim 48 including forming the protective layer of a material in the form of silicon nitride.

50 (New). The method of claim 49 including forming the silicon nitride in the form of Si_3N_4 .

REMARKS

Claim 1 was rejected over the Reinberg reference. Reinberg indicates that the electrode material 56 may be composed of more than one layer. The lower electrode may be formed of carbon and is used "as a barrier layer to prevent unwanted migration between the subsequently deposited chalcogenide material and the P+ type layer 42." Reinberg further explains that "a layer of titanium nitride (TiN) may then be deposited upon the layer of carbon to complete the formation of the electrode 56." See column 8, lines 47-56.